

AMENDMENTS

A. To the Specification

Please replace the paragraph beginning on page 7, line 2 with the following amended paragraph:

FIGURE 1 illustrates a system 10 for analyzing guided wave data in accordance with the invention.

--The reflected signals are detected from two probe positions 11 separated by a short distance apart. As discussed in the Background, there are various approaches to long range guided wave testing, and various types of probes may be used for such testing. Examples of suitable probes are those used for Lamb wave inspection or those used for magnetostrictive testing. In the example of FIGURE 1, the probe at each position is of a type appropriate for magnetostrictive testing and encircles pipe 12. A suitable separation distance, d, between probe positions 11 is four inches.--

Please replace the paragraph beginning on page 7, line 15 with the following amended paragraph:

--The probe outputs are delivered to a processing system 13, which has memory and processing components suitable for implementing the method described herein. Processing system 13 is programmed with instructions for carrying out the algorithms described below, and may further be programmed with a suitable user interface for receiving operation commands and displaying results to an operator.--

Please replace the paragraph beginning on page 8, line 14 with the following amended paragraph:

--FIGURE 3s 3A and 3B illustrates an example of two sets of A-scan guided wave data from probes 11 placed at two different locations on structure 12. Each set of data is represented by a plot of signal amplitude (volts) against time (milliseconds). The total test time in this case is 14 milliseconds (corresponding to the round-trip time of the longitudinal

*C3*  
*end*  
wave over an approximately 39-meter long pipe), and the range of signal values is within a range of 1 to -1 volts.

Please replace the paragraph beginning on page 8, line 23 with the following amended paragraph:

*C4*  
Step 13 is identifying signals in both data sets whose amplitude exceeds a certain threshold. The threshold value is chosen to be at least twice the background noise level in the data. The actual threshold value used in the algorithm is determined by the operator based on the desired level of defect detectability (for example 20 percent of a weld signal amplitude).